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10/615,294	07/09/2003	Shigeo Murakami	58604-029	7075

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EXAMINER	
HANG, VU B	
ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/615,294	MURAKAMI, SHIGEO	
	Examiner	Art Unit	
	Vu B. Hang	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/23/2007, 10/30/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

- This office action is responsive to the application filed on 07/09/2003.
- Claims 1-34 are pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent 5,461,457) in view of Sugawara (US Patent 4,233,663).

3. Regarding **Claims 1 and 18**, Nakamura discloses a print quality measuring method for comparing set image data (target image data) and an image of actual print to create control data for controlling ink feeding rates of a printing machine (see Fig.15 (270,272,288), Col.1, Line 56-62, Col.7, Line 7-16 and Col.17, Line 3-18) [Note: The examiner views controlling the ink exposure amount as controlling the ink feeding rates for a printing machine.], the method comprising: a reading step for reading the set image data (target image data) and the image of the actual print (see Fig.9 (170), Fig.15 (270,272,288), Col.7, Line 7-16 and Col.17, Line 3-18); a representative color determining step for determining, from the image data, a representative color characterizing the image of the print, and positions of the representative color (see Fig.5 (120), Fig.9 (170), Col.1, Line 56 – Col.2, Line 12 and Col.2, Line 13-35) [Note: The examiner views the representative color as the color of the extracted face from the image data and the positions

of the representative color as the pixel positions of the extracted face area of the image data.]; and a calculating step for carrying out the a comparative calculation of color data in the positions of the representative color of the set image data (target image data) and color data in the positions of the representative color of the image of the print, to create the control data for controlling the ink feeding rates of the printing machine (see Fig.9 (180,182,184) and Col.14, Line 14-24). Nakamura fails to expressly disclose comparing an image in the form of reference paper (i.e. printed color chart, color patches) with an image of the actual print to create the control data for controlling the ink feeding rates of a printing machine. Sugawara, however teaches a method for estimating the amount of ink to be consumed for printing color image data (see Fig.1 (8,9) and Col.1, Line 44-55), wherein a test chart is used to adjust the color density to be printed to desirable color (Fig.1 (8,9), Col.1, Line 44-55 and Col.2, Line 41-47).

4. Nakamura and Sugawara are combinable because they are from the same field of endeavor, namely print data processing methods. At the time of the invention, it would have been obvious for one skilled in the art to use an image from a reference paper (i.e. printed color chart, color patches) to compare with an image of the actual print for creating the control data. The motivation would be to use a standard color reference for adjusting the ink exposure of the printing machine to achieve a desirable or target color for the printed image. The printed color chart would enable for the printing machine or operator to make adjustments to the ink exposure rates through evaluating the image data with the color test chart.

5. Regarding **Claims 2 and 19**, Nakamura further discloses the representative color and the positions thereof are determined for respective sections corresponding to ink keys in each ink well of the printing machine (see Fig.1 (28), Fig.2 (110) and Col.8, Line 44-48).

6. Regarding **Claims 3 and 20**, Nakamura further discloses the image data has three color components (see Fig.1 (28), Fig.2 (102) and Col.7, Line 10-16), the representative color determining step is executed to classify pixels in each of the sections corresponding to the ink keys according to tones of each of the three color components (see Fig.2 (104), Col.2, Line 12-35 and Col.7, Line 10-16), and determine a representative color and a position thereof from pixels included in a predetermined class interval (see Fig.2 (108), Col.2, Line 12-35 and Col.8, Line 44-48).

7. Regarding **Claims 4 and 21**, Nakamura further discloses the representative color determining step is executed to create a histogram with the tones of each of the there color components of each pixels in each of the sections (see Fig.2 (104), Col.2, Line 12-35 and Col.7, Line 10-16), and select the representative color and the position thereof from pixels included in a class interval of maximum frequency in the histogram (see Fig.2 (108), Fig.5 (124), Col.2, Line 12-35, Col.8, Line 44-48 and Col.9, Line 66 - Col.10, Line 5).

8. Regarding **Claims 5 and 22**, Nakamura further discloses the position of the representative color is selected is a position having a maximum area formed by the pixels included in the class interval (see Fig.2 (108), Fig.5 (124), Col.2, Line 12-35, Col.8, Line 44-48 and Col.9, Line 66 - Col.10, Line 5).

9. Regarding **Claims 6 and 23**, Nakamura teaches determining the representative color (see Fig.5 (120), Fig.9 (170), Col.1, Line 56 – Col.2, Line 12 and Col.2, Line 13-35) but fails to disclose that the representative color is one of plate making data used at plate making time, and the image data is obtained processing the plate making data. Sugawara, however, teaches processing various parts of an original print and calculating the amount of ink to apply on

printing plate to produce the desired color print image (see Fig.1 (8,9), Col.1, Line 44-55 and Col.2, Line 41-47). At the time of the invention, it would have been obvious for one skilled in the art to carry out the steps of the method of Claim 1 using the plate making data. The motivation would be to adjust the ink exposure for the printing plate to achieve a desirable or target color for the printed image.

10. Claims 7-9 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent 5,461,457) in view of Sugawara (US Patent 4,233,663), and in further view of Takemoto (US Patent 6,211,973 B1).

11. Regarding **Claims 7 and 24**, Nakamura and Sugawara teach the method of Claim 1 but fail to disclose a gray control color determining step for determining, from the image data, a gray color expressed in substantially achromatic color and positions of the gray control color, wherein the operating step creates the control data for controlling ink feeding rates of the print machine, by using results of a comparative calculation of color data in the positions of the gray control color of the image from a reference paper and color data in the positions of the gray control color of an image from the print data, as well as the results of a comparative calculation of color data in the positions of the representative color from a reference paper and color data in the positions of the representative color from the print data. Takemoto, however, teaches a color transforming method, wherein color correction is performed on the print data through using a color chart reference information and a achromatic color chart reference information (gray color) (see Fig.1 and Col.2, Line 22-37). Takemoto further teaches the processing the color data and the gray color data together for the color correction process to achieve a desired color image (see Col.3, Line 54 – Col.4, Line 6).

12. Nakamura, Sugawara and Takemoto are combinable because they are from the same field of endeavor, name color image data processing methods. At the time of the invention, it would have been obvious for one skilled in the art to include the processing of a gray control color for determining, from the image data, a gray color expressed in substantially achromatic color and positions of the gray control color, and creating the control data for controlling ink feeding rates of the print machine, by using results of a comparative calculation of the gray control color, as well as the results of a comparative calculation of color data. The motivation would be to include gray balancing for certain areas of the image data. The gray balancing, along with the color data of the image would be used to adjust the gray tones in the appropriate areas of the color image. The corrected/adjusted image data would provide the key information for controlling ink feeding rates for the printing machine during printing.

13. Regarding **Claims 8 and 25**, Nakamura, Sugawara and Takemoto teach the method of Claim 7 but fail to expressly disclose performing the comparative calculation for the gray control color when the representative color of the image is devoid of one of the three color components. At the time of the invention, it would have been obvious for one skilled in the art to perform the comparative calculation for the gray control color when the representative color of the image is devoid of one of the three color components. The motivation would be to perform gray balancing in areas of the image data where gray tones need to be adjusted. The areas of the image data where gray balancing needs adjustments are likely to be devoid of one of the three color components of RGB since the gray tone is likely to be emphasized in these areas.

14. Regarding **Claims 9 and 26**, Nakamura, Sugawara and Takemoto teach the method of Claim 7 but fail to expressly disclose selectively using the results of the comparative calculations

of the representative color and the results of the comparative calculations of the gray control color, or by using a compromise in an appropriate ratio of the results of the two comparative calculations. Takemoto, however, teaches the processing the color data and the gray color data together for the color correction process to achieve a desired color image (see Col.3, Line 54 – Col.4, Line 6). At the time of the invention, it would have been obvious for one skilled in the art to selectively use the results of the comparative calculations of the representative color and the results of the comparative calculations of the gray control color, or a compromise in an appropriate ratio of the results of the two comparative calculations. The motivation would be to adjust the image data to the desired color. The results of the comparative calculations of the representative color and the gray color, or the compromise ratio of the results of the two comparative calculations would provide the appropriate color density information for the ink exposure setting in the printing machine.

15. Claims 10-14 and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara (US Patent 4,233,663) in view of Nakamura (US Patent 5,461,457).

16. Regarding **Claims 10 and 27**, Sugawara discloses a print quality measuring method for comparing data obtained by reading an image of an actual print with one of plate making data used at plate making time and image data created from plate making data, to create control data for controlling the ink feeding rates of a printing machine (see Fig.1 (8,9), Col.1, Line 44-55, Col.2, Line 20-26 and Col.2, Line 41-47), the method comprising reading the image of actual print (see Fig.1 (8,9), Col.2, Line 20-26 and Col.2, Line 41-47). Sugawara fails to disclose a step for determining a representative color characterizing the image of the print and the positions of the representative color; and a step for carrying out a comparative calculation of color data in the

positions of the representative color of the image and the representative color, to create control data for the ink feeding rates of the printing machine. Sugawara, however, teaches performing color correction ob various parts of the original image to calculate the amount of ink exposure of the printing machine (see Fig.1 (8,9), Col.1, Line 44-55 and Col.2, Line 41-47). Nakamura discloses a step for determining, from the image data, a representative color characterizing the image of the print, and positions of the representative color (see Fig.5 (120), Fig.9 (170), Col.1, Line 56 – Col.2, Line 12 and Col.2, Line 13-35); and a step for carrying out the a comparative calculation of color data in the positions of the representative color of the set image data (target image data) and color data in the positions of the representative color of the image of the print, to create the control data for controlling the ink feeding rates of the printing machine (see Fig.9 (180,182,184) and Col.14, Line 14-24).

17. Sugawara and Nakamura are combinable because they are from the same field of endeavor, namely print data processing methods. At the time of the invention, it would have been obvious for one skilled in the art to include a a step for determining a representative color characterizing the image of the print and the positions of the representative color; and a step for carrying out a comparative calculation of color data in the positions of the representative color of the image and the representative color, to create control data for the ink feeding rates of the printing machine. The motivation would be to extract specific portions of the image data to perform color corrections, and to achieve the desired color data for the extracted portions of the image data. The comparative calculation would provide the appropriate color density information for the ink exposure setting for the printing machine.

18. Regarding **Claims 11 and 28**, Nakamura further discloses the representative color and the positions thereof are determined for respective sections corresponding to ink keys in each ink well of the printing machine (see Fig.1 (28), Fig.2 (110) and Col.8, Line 44-48).

19. Regarding **Claims 12 and 29**, Nakamura further discloses the image data has three color components (see Fig.1 (28), Fig.2 (102) and Col.7, Line 10-16), the representative color determining step is executed to classify pixels in each of the sections corresponding to the ink keys according to tones of each of the three color components (see Fig.2 (104), Col.2, Line 12-35 and Col.7, Line 10-16), and determine a representative color and a position thereof from pixels included in a predetermined class interval (see Fig.2 (108), Col.2, Line 12-35 and Col.8, Line 44-48).

20. Regarding **Claims 13 and 30**, Nakamura further discloses the representative color determining step is executed to create a histogram with the tones of each of the there color components of each pixels in each of the sections (see Fig.2 (104), Col.2, Line 12-35 and Col.7, Line 10-16), and select the representative color and the position thereof from pixels included in a class interval of maximum frequency in the histogram (see Fig.2 (108), Fig.5 (124), Col.2, Line 12-35, Col.8, Line 44-48 and Col.9, Line 66 - Col.10, Line 5).

21. Regarding **Claims 14 and 31**, Nakamura further discloses the position of the representative color is selected is a position having a maximum area formed by the pixels included in the class interval (see Fig.2 (108), Fig.5 (124), Col.2, Line 12-35, Col.8, Line 44-48 and Col.9, Line 66 - Col.10, Line 5).

22. Claims 15-17 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara (US Patent 4,233,663) in view of Nakamura (US Patent 5,461,457), and in further view of Takemoto (US Patent 6,211,973 B1).

23. Regarding **Claims 15 and 32**, Sugawara and Nakamura teach the method of Claim 10 but fail to disclose a gray control color determining step for determining, from the image data, a gray color expressed in substantially achromatic color and positions of the gray control color, wherein the operating step creates the control data for controlling ink feeding rates of the print machine, by using results of a comparative calculation of color data in the positions of the gray control color of the image from a reference paper and color data in the positions of the gray control color of an image from the print data, as well as the results of a comparative calculation of color data in the positions of the representative color from a reference paper and color data in the positions of the representative color from the print data. Takemoto, however, teaches a color transforming method, wherein color correction is performed on the print data through using a color chart reference information and a achromatic color chart reference information (gray color) (see Fig.1 and Col.2, Line 22-37). Takemoto further teaches the processing the color data and the gray color data together for the color correction process to achieve a desired color image (see Col.3, Line 54 – Col.4, Line 6).

24. Sugawara, Nakamura and Takemoto are combinable because they are from the same field of endeavor, name color image data processing methods. At the time of the invention, it would have been obvious for one skilled in the art to include the processing of a gray control color for determining, from the image data, a gray color expressed in substantially achromatic color and positions of the gray control color, and creating the control data for controlling ink feeding rates

of the print machine, by using results of a comparative calculation of the gray control color, as well as the results of a comparative calculation of color data. The motivation would be to include gray balancing for certain areas of the image data. The gray balancing, along with the color data of the image would be used to adjust the gray tones in the appropriate areas of the color image. The corrected/adjusted image data would provide the key information for controlling ink feeding rates for the printing machine during printing.

25. Regarding **Claims 16 and 33**, Nakamura, Sugawara and Takemoto teach the method of Claim 15 but fail to expressly disclose performing the comparative calculation for the gray control color when the representative color of the image is devoid of one of the three color components. At the time of the invention, it would have been obvious for one skilled in the art to perform the comparative calculation for the gray control color when the representative color of the image is devoid of one of the three color components. The motivation would be to perform gray balancing in areas of the image data where gray tones need to be adjusted. The areas of the image data where gray balancing needs adjustments are likely to be devoid of one of the three color components of RGB since the gray tone is likely to be emphasized in these areas.

26. Regarding **Claims 17 and 34**, Sugawara, Nakamura and Takemoto teach the method of Claim 15 but fail to expressly disclose selectively using the results of the comparative calculations of the representative color and the results of the comparative calculations of the gray control color, or by using a compromise in an appropriate ratio of the results of the two comparative calculations. Takemoto, however, teaches the processing the color data and the gray color data together for the color correction process to achieve a desired color image (see Col.3, Line 54 – Col.4, Line 6). At the time of the invention, it would have been obvious for one

skilled in the art to selectively use the results of the comparative calculations of the representative color and the results of the comparative calculations of the gray control color, or a compromise in an appropriate ratio of the results of the two comparative calculations. The motivation would be to adjust the image data to the desired color. The results of the comparative calculations of the representative color and the gray color, or the compromise ratio of the results of the two comparative calculations would provide the appropriate color density information for the ink exposure setting in the printing machine.

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu B. Hang whose telephone number is (571)272-0582. The examiner can normally be reached on Monday-Friday, 9:00am - 6:00pm.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vu B. Hang/
Examiner, Art Unit 2625

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625